

REMARKS

Applicants have amended claim 1 to make sure that the Examiner is applying the appropriate interpretation to applicants' claims. As explained in the previous response in this application, applicants have always intended that the resin of the second layer be a resin or resins that are for all intents and purposes made up of propylene repeating units (i.e., are *essentially* polypropylene homopolymers) and do not include any meaningful amounts of copolymer units other than propylene or of such units as ester groups or the like. Applicants have now amended claim 1, the sole independent claim, so that the Examiner does not apply his interpretation of the claims so as to embrace second resin layers that are made of copolymers and/or blends of polypropylene resins as asserted at the top of page 2 of the pending Action. This interpretation essentially ignores the phrase "consisting essentially of" and is not reasonable in light of the claim language as a whole or the specification of this application. This amendment should be entered since it places the claims in condition for allowance and raises only issues that the Examiner has already considered.

Claims 1, 2 and 4 stand rejected under 35 USC 102(e) as anticipated by Shah. In support of this rejection, the Examiner repeated the reasons in the previous Action and added the following comments on pages 2 and 6 of the Action (emphasis in original):

The silicone oil can be in the range of **about** 0.1 to 1.0%; the applicants claim a value of 0.08%. A value of 0.08% rounds up to a value of 0.1%, and the term "about" gives the prior art value of 0.1 enough latitude to read on the applicants' end point.

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Regarding Shah et al., the applicants state that the prior art siloxane amounts do not fall within the claimed range. The examiner disagrees. The applicants amended the claims to cite an endpoint of 0.08%. The applicants merely carved up the range by using a value from their examples, there is no indication that this is a preferred range or that it has any special properties over a

value of 0.1% as claimed before and as taught by the prior art. Values of 0.08% and 0.1% are within scientific error of each other and within numerical rounding.

This rejection and its supporting reasoning are respectfully traversed.

First, the Examiner cited no evidence from Shah or anywhere else to support his statement that a value of 0.08 rounds up to a value of 0.1. The Examiner cannot simply make a statement regarding how persons of ordinary skill in this art would view the values disclosed in the prior art and claimed in this application without factual basis. The Examiner is *assuming*, without basis in any evidence, that persons of ordinary skill in the art would have considered Shah's minimum value of 0.1% additives to be the same as applicants' claimed maximum of 0.08%. It cannot be denied that Shah does not teach an additive amount of less than 0.1%, so it cannot anticipate the claims.¹

Second, as demonstrated in paragraphs 3-5 of the attached Declaration of Keunsuk P. Chang, persons of ordinary skill in this art would not have considered additive amounts of 0.08% and 0.01% to be "within scientific error" or that 0.08 would have been rounded up to 0.1. Applicants refer the Examiner to these paragraphs, which are self-explanatory, and emphasize in these Remarks the following points made by Mr. Chang:

(1) At the time of the invention, commercially available dosing and resin blending systems were already very capable of precise mixing and blending of very small quantities of additives. A target additive loading of 800 ppm (0.08%) could easily be achieved and maintained and was clearly distinguishable from a target additive loading of 1000 ppm (0.1%) using dosing systems readily available at the time of the invention.

(2) Commercial production-grade resin blenders available as early as 1989 easily had a dosing accuracy of $\pm 1.0\%$. As such, a target value of 0.08% (800

¹ For the purposes of an anticipation rejection, applicants respectfully suggest that the Examiner's opinion regarding their motivation in selecting a maximum claimed additive amount of 0.08% is irrelevant to whether Shah identically teaches or suggests such a maximum amount. There is nothing in law that requires applicants to draft claims to what an Examiner might deem to be a "preferred range."

ppm) for an additive with an error of $\pm 1.0\%$ would give a range of additive concentration of from 0.0792% (792 ppm) to 0.0808% (808 ppm). A target value of 0.10% (1000 ppm) with an additive with an error of $\pm 1.0\%$ would give a range of additive concentration from 0.099% (990 ppm) to 0.101% (1010 ppm). Persons of ordinary skill in this field of technology could and would easily have distinguished between a 0.08% loading and a 0.1% loading of an additive and would never have considered it appropriate to round a 0.08% loading up to a 0.10% loading, which would imply an error of 20%, which is totally unreasonable and would likely produce unacceptable results.

(3) "Scientific error" is a function of the measurement system, and the more accurate the measurement system, the smaller the error will be. With the accurate dosing systems available at the time of the invention (and even more accurate systems available today), a 0.08% additive loading is not "about" a 0.1% loading. Moreover, such accurate dosing of additives is critical in the packaging film industry in order to design precision performing films for many diverse properties and applications. The degree of scientific error experienced with dosing systems is, as noted above, in a range of $\pm 1\%$ of the additive dose, and, depending on which value is the base of comparison, values of 0.08 and 0.10 vary from one another by an error of 20% (if 0.10 is the base) or 25% (if 0.08 is the base).

Thus, not only is the Examiner's position regarding rounding and "scientific error" not supported by any evidence cited by the Examiner, applicants have provided probative testimony showing that the Examiner's findings are incorrect.

Third, Shah itself shows that the Examiner's rounding and "scientific error" arguments are not supported by evidence of knowledge of how persons of ordinary skill in the art would read Shah and the claims. As applicants have noted previously, Shah discloses the use of organosiloxane (silicone oil) in an amount of 0.1-1% by weight of the skin layer (1000-10,000 ppm), preferably 0.18-0.5% (1800-5000 ppm), well above the claimed upper limit of about 0.08% (800 ppm). Shah discloses that the combination of a relatively large amount of silicone oil and the high loading of antiblock particles reduces screw slippage (column 2, lines 15-25), which means that Shah itself discloses that the use of silicone oil in an amount less than that disclosed is not appropriate to achieve the results disclosed in Shah. Reading the minimum

amount disclosed in Shah of 0.1% as being the same as “about 0.08%” files in the face of Shah’s own disclosure. By contrast, a goal of this invention is to minimize the amount of migratory additives in order to improve printability and control seasonal/environmental variation in slip properties and thus maintain stable slip performance, as disclosed at page 2, lines 19-22, of the specification. As a result, this invention produces good slip properties with a minimum amount of migratory additives, contrary to the large amounts of migratory additives taught by Shah.

Fourth, the Examiner takes the position in paragraph 17 on pages 6 and 7 of the Action that the requirement that the first resin layer be “surface treated by a discharge treatment method that imparts printability to the treated surface” does not claim a particular amount of surface treatment because “[a]lmost no surface treatment is needed to meet this limitation.” The Examiner cites the example of a Sharpie pen, which he says will print on the surface of an untreated film. This argument responds to applicants’ explanation in their prior response that the first, or “surface,” layer which applicants claim as being surface treated corresponds to the layer of Shah’s film which contains the first and second additive materials that applicants claim to be in the *second* layer.

Paragraphs 6-8 of Mr. Chang’s declaration explain how even small amounts of additives in the surface treated layer can adversely affect printability, so that persons of ordinary skill in the art would not have been motivated by Shah, in which the surface layer contains additives, to make the claimed film, the surface layer of which does not contain additives. Mr. Chang’s testimony overcomes the Examiner’s unsupported comments regarding printability and the suggestion that writing with a Sharpie is analogous to printing.

Finally, as applicants have observed previously, Shah broadly discloses the use of 0.1%-1% fatty acid amides and refers to a relatively large amount of fatty acid amide, 0.2 – 4.0% as preferable (column 12, lines 37-42). Again, this invention seeks to minimize the amount of

migratory additives, so that fatty acid amides are an optional component and are present only up to 0.08%, below Shah's disclosed minimum, if that option is chosen.

For all of these reasons, Shah does not identically disclose the invention of claims 1, 2 and 4 and thus does not anticipate these claims. The rejection of claims 1, 2 and 4 under 35 USC 102(e) on Shah should be withdrawn.

Claims 1-4, 6-8 and 10 stand rejected under 35 USC 103(a) on Shah. In paragraph 8 of the Action the Examiner states that Shah et al. "teach films having a base layer and at least one sealable layer." In paragraph 9 of the Action, the Examiner repeats the language from paragraph 12 of the previous Action:

In the absence of unexpected results, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have used the cited antiblocking agents and lubricants in the films taught by Shah et al. for their known and expected function, in which the amounts of these components would be directly related to the lubricating/antiblocking properties realized.

Since Shah by itself is not evidence that a person of ordinary skill in the art would have been motivated to make the invention as claimed, for the reasons stated above, Shah does not create a *prima facie* case of obviousness that applicants have to rebut.

As explained above, Shah does not disclose the claimed amounts of either the silicone oil or the fatty acid amide and says nothing that would have motivated persons of ordinary skill in the art to use less of such additives than Shah discloses. The Examiner has the initial burden of pointing to evidence in the prior art itself that persons of ordinary skill in the art would have been motivated to deviate from the teachings of the prior art to make the inventions, which the Examiner has not even attempted to do. There is no evidence in Shah or in any other prior art reference of record to support the Examiner's conclusion that the claimed amounts of additives would have been considered sufficient to perform their "known and expected" functions, since the prior art discloses the use of larger amounts of such additives and does not suggest that the

use of smaller amounts of additives would produce the results disclosed (i.e., the “known and expected” results) in those references. Shah instead suggests that using a smaller amount of additives than disclosed will not produce suitable results and thus teaches away from the invention. In the absence of a *prima facie* case of obviousness, applicants bear no burden to rebut the Examiner’s unsupported remark that applicants’ upper additive amount limit has no special properties as compared with an amount of 0.1%. Accordingly, Shah by itself could not have rendered obvious the inventions of applicants’ claims 1-4, 6-8 and 10, and this rejection should be withdrawn.

Claims 1-4 and 6-9 stand rejected under 35 USC 103(a) on Mizuno. The Examiner interpreted Mizuno as disclosing a film having a crystalline polypropylene substrate layer and a surface layer comprising a polypropylene component and inorganic particles such as zeolites or non-melting siloxane particles. The Examiner noted that the surface layer may also contain 0.1 to 1 part of silicone oil per part of resin in the surface layer. The Examiner acknowledged that Mizuno does not identically disclose the claimed invention, stating, “The essential difference between the claimed invention and the prior art is the specific combination of antiblocking agents and lubricants.” The remainder of the reasoning supporting the rejection on Mizuno is again the same as the reasoning employed to support the obviousness rejection on Shah. This rejection and its supporting reasoning are respectfully traversed.

As with Shah, the Examiner has failed to point to any disclosure within Mizuno itself to support the Examiner’s conclusion that applicants are claiming conventional additives that would have been obvious to use in the claimed amounts. This logic is tantamount to relying on the general level of ordinary skill in the art, without supporting evidence, to fill the gap between the invention and the prior art, a rationale which the Federal Circuit squarely rejected in *In re Lee*, 277 F.3d 1338, 61 USPQ2d 1430 (Fed. Cir. 2002), as being contrary to law.

Mizuno's surface layer is not made of a resin that consists essentially of propylene units as claimed. The skin layer of Mizuno's film containing the antiblock additive *must* be a copolymer (either an EP copolymer or an EPB terpolymer) blended with a specific amount of acid-modified polypropylene. Mizuno calls this layer a "propylene random copolymer" that contains 2 to 10% by weight of ethylene: if less than 2% ethylene is present, the film has poor heat sealability, and if more than 10% ethylene is present, the film tends to be sticky and have low scratch resistance (column 3, lines 29-44). The amounts of ethylene in the surface layer required by Mizuno take it outside of any reasonable interpretation of the claim language requiring the resin of the second layer to consist essentially of propylene units.

Furthermore, Mizuno, like Shah, discloses the use of a minimum of 0.1% of silicone oil in the skin layer and thus does not suggest films containing at most 0.08% silicone oil in the surface layer.

Finally, persons of ordinary skill in the art familiar with Mizuno's modified surface layer materials would have recognized that Mizuno's films do not maintain adequate slip properties, contrary to the claimed invention. For example, if one were to test hot slip properties (i.e., COF slip properties at elevated temperatures at, e.g., 40°C, 60°C, 80°C, 100°C), one would find that Mizuno's film would fail in maintaining slip properties because terpolymers and copolymers like those disclosed as surface layers in Mizuno tend to heat seal and are used for heat sealing properties. In fact, Mizuno makes a big point of the heat sealability of its films at column 1, lines 55-57; column 3 lines 39-42 and 51-54; and column 6, lines 16-19, for example. Table 2 of this application makes this clear: Example 1, which exemplifies this invention, shows very good hot slip properties up to 100°C; a film similar to Mizuno's, shown in Counter Example 2 (using a terpolymer skin layer with antiblock package, silicone oil, and fatty amide), fails to exhibit good hot slip performance at 80°C and higher. This would have been expected by persons of ordinary skill in the art because at higher temperatures, such copolymers or terpolymers like those used in

Mizuno will start to soften and “heat-seal” during the test. As a result, persons of ordinary skill in the art would not have believed, contrary to the Examiner’s reasoning, that Mizuno’s films could be modified to produce applicants’ claimed films, which are not heat-sealable by virtue of their surface layer compositions.

In order to expedite prosecution, Mr. Chang also explains in paragraph 9 of his declaration why the results produced by this invention are unexpected from Mizuno’s disclosure. This showing rebuts any case of *prima facie* obviousness that Mizuno might be found to make out. Pointing to Mizuno’s Table 1, Mr. Chang notes Comparative Example 1, where a film made without the acid-modified polypropylene was unsuitable for packaging due to unacceptable powder build-up of the antiblock agent. Mr. Chang explains that this invention, by contrast, surprisingly found that this was not true. Mr. Chang testifies that he and his colleagues have found, and that he is personally aware, that the film of this invention -- which does not contain any acid-modified polypropylene -- has never exhibited any powder build-up of antiblock particles either during our film-making production or subsequently in our customer chain-of-use from printing to laminating, and finally, through packaging. He testifies that this result, which the assignee of this application has validated in many customer qualification, scale-up, and commercial trials is significantly contrary to Mizuno’s results.

For all of these reasons, the rejection of claims 1-4 and 6-9 under 35 USC 103(a) on Mizuno should be withdrawn.

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